Clinical trial

Comparative study of fig tree efficacy in the treatment of common warts (Verruca vulgaris) vs. cryotherapy

Shahab Bohlooli, PhD, Alireza Mohebipoor, MD, Sadollah Mohammadi, PharmD, Mina Kouhnavard, MS, and Sedigheh Pashapoor, MS

From the Pharmacology Department, School of Medicine, Ardabil University of Medical Sciences, Dermatology Department, School of Medicine, Ardabil Branch of Open Islamic University, Ardabil, Iran

Correspondence
Shahab Bohlooli, PhD
Department of Pharmacology
School of Medicine
Ardabil University of Medical Science
University Street
Ardabil, 56197
Iran
E-mail: shahab.bohlooli@arums.ac.ir

Abstract

Background A traditional method for the treatment of warts in some rural areas of Iran comprises the use of fig tree (ficus carica) latex as a local treatment; however, there is no scientific evaluation of its efficacy.

Methods A prospective, open right/left comparative trial of fig tree latex therapy vs. local standard of cryotherapy was carried out. Twenty-five patients with common warts were recruited into the study from an outpatient clinic. The patients were instructed in self-application of fig tree latex to warts on one side of the body. The wart on the opposite side was treated using standard cryotherapy. A 6-month follow-up study was planned.

Results In 11 (44%) of the 25 patients complete resolution of fig tree latex-treated warts was observed. The remaining 14 patients (56%) had a complete cure following cryotherapy. Two patients had complete remission on both sides. Two patients failed to respond to either cryotherapy or fig tree latex. It was found that fig tree latex therapy was marginally less effective than cryotherapy. Adverse effects were observed only in cryo-treated warts. At the 6-month follow-up study there was an 18% recurrence rate.

Conclusion Fig tree latex therapy of warts offers several beneficial effects including short-duration therapy, no reports of any side-effects, ease-of-use, patient compliance, and a low recurrence rate. The exact mechanism of the antiwart activity of fig tree latex is unclear but is likely to be the result of the proteolytic activity of the latex enzymes.

Introduction

Human papillomaviruses (HPVs) are small double-stranded DNA viruses, which infect stratified epithelium[1] and cause a variety of clinical lesions. In general, the benign tumors of the skin and other epithelial tissue caused by HPV infection are termed warts or papillomas.[2] Warts may exist in different forms given the epithelial surface and the type of HPV responsible for the infection. Common warts (*Verruca vulgaris*), plantar warts (*Verruca plantaris*), flat or planar warts (*Verruca plana*), and genital warts (*Condyloma acuminata*) are some of the clinical manifestations of HPV infection.[3] Common warts represent 70% of cutaneous HPVs and occur primarily in children, whereas plantar and flat warts occur in a slightly older population.[4] Warts can be painful depending on their location (e.g. soles of the feet and near the nails) and they are viewed as socially unacceptable when located on visible areas (e.g. hands and face).[3] Lesions are notoriously difficult to treat and sometimes resolve naturally with time. Traditional treatment modalities have been primarily destructive in nature[4] and pose a therapeutic challenge for physicians. No single therapy has been proven effective at achieving complete remission in every patient. As a result, many different approaches to wart therapy exist.[3] These include podophyllin, cryotherapy, laser therapy and surgery. More recently, immunomodulators with antiviral properties have been investigated for their role in HPV therapy.[4]

One of the traditional methods for treatment of warts in some rural areas of Iran is to use fig tree (ficus carica) latex as a local treatment,[5] as reported by Avicenna in his 10th century book *Canon of Medicine*.[6] Fig tree latex (a milky excrete of leaves and fruits of the common fig tree, so called "ficin") offers some therapeutic effects such as anti-HSV-1,[7] anthelmintic,[8] antimutagenic,[9] antioxidative,[10] cytotoxic,[11] hypotriglyceridemic[12] and hypoglycemic[13] actions. It has also been investigated for its proteolytic enzymes, amino acids, minerals, sugars, triterpenes, organic acids and allergens. Examination of latex from the fig tree by SDS-PAGE revealed major proteins of 25 kDa and 48 kDa in size, and several proteins with molecular mass < 20 kDa and > 100 kDa.[5]

Although fig tree latex is being used to treat warts as a herbal medication, the authors' survey did not find any

International Journal of Dermatology 2007, **46**, 524–526